

The rejection of Claim 26 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been carefully considered. Claim 26 has been amended to correct a spelling error. Accordingly, the rejection of Claim 26 should be withdrawn.

The Examiner has objected to independent Claim 33 as containing non-elected subject matter, but would be allowable if rewritten in independent form excluding non-elected subject matter. After a telephone conversation with the Examiner, it is the Applicants understanding that the Examiner has reconsidered the objection and the objection will be withdrawn.

The rejection of Claims 1-3, 6, 8, 25, and 27 under 35 U.S.C. 103(a) as being unpatentable over Thiel et al. (U.S. Patent No. 5,344,643) and Roe et al. (U.S. Patent No. 5,500,220) is respectfully traversed.

The Examiner takes the position that Thiel et al. teaches a composition comprising vegetable oil (soy oil), alkyl sulfate, ethylene oxide, and water. Roe et al. teaches that alkyl sulfates function as foaming agents. It appears that the Examiner believes that one having ordinary skill in the art would have been motivated to use the instant composition as a foam since the prior art teaches that the combination of said ingredients creates a foam. Hence, the references make obvious the instant invention.

Referring first to Claims 1-3, 6, and 8.

Referring to Thiel et al.: The Applicants respectfully submit that independent Claim 1, as amended, recites a composition for producing a foam for use in protecting plants against frost or freezing temperatures comprising "about 40% to about 90% by weight of vegetable oil; an emulsifier; and a foaming agent." The Applicants have found that a foam produced from a composition comprising "about 40% to about 90% by weight of vegetable oil" provides a stable foam that is effective for protecting plants from injury caused by frost or freezing temperatures.

In contrast, the composition disclosed in Thiel et al. is for shampoo-conditioning that is comprised of a majority of water. As stated on Column 8, lines 39 through 43 of Thiel et al.:

“The oil conditioning agent preferably comprises between 0.1 to about 10, more preferably between about 0.5 to about 4 and most preferably about 0.5 to about 2.0 weight percent of the composition.” (See Col. 8, lines 39 through 43).

As stated on page 10, lines 1 through 4 of the subject specification,

“One problem with producing a foam which is effective for providing protection for a plant from injury caused by frost or freezing temperatures is the difficulty of providing a stable oil and emulsifier composition having a relatively large percentage of vegetable oil.”

Accordingly, unlike the composition of the subject application having a significant weight percentage of the composition comprising a vegetable oil, the composition disclosed in Thiel comprises a relatively small amount of vegetable oil. Thus, an essential feature of the invention as claimed in independent Claim 1, as amended, is nowhere shown in the cited references.

Further, in going from the prior art to the claimed invention, one cannot base obviousness upon what a person skilled in the art might try or might find obvious to try but rather must consider what the prior art would have led a person skilled in the art to do. While someone might fortuitously try using alkyl sulfates as a foaming agent, the Applicants are unable to find any teaching that would lead one of ordinary skill in the art to use alkyl sulfates as a foaming agent for a composition comprising “about 40% to about 90% by weight of vegetable oil” for use as a foam in protecting plants from frost or freezing temperatures. While numerous compositions exist that produce or are capable of producing a foam, the Applicants are unable to find any teaching in the cited references

that would suggest that a foam comprising "about 40% to about 90% by weight of vegetable oil" would be stable for relatively long periods of time at or near freezing temperatures and would be effective for preventing injury to plants caused by frost or freezing temperatures.

Furthermore, for the teachings of a reference to be prior art under Section 103, there must be some basis for concluding that the reference would have been considered by one skilled in the particular art working on the pertinent problem to which the subject invention pertains. In determining the relevant art one looks to the nature of the problem confronting the inventor. Thiel et al. relates to a shampoo-conditioning composition. While Thiel et al. discloses compositions that may produce foams, the Applicants respectfully submit that such areas of art are not within the Applicants endeavor and are not reasonably pertinent to the particular problem with which the Applicants are involved, providing a relatively long lasting stable foam effective for protecting plants from frost or freezing temperatures.

Referring to Roe et al.: The compositions disclosed relate to biological and dust control methods for bulk/granular solids. As stated in Col. 3, lines 19 through 24 of Roe et al., "For effective dust control during storage, water and/or oil based binders such as mineral or vegetable oils...compositions may be desirable." The Applicants, however, are unable to find any teaching of the desirability of an oil-in-water composition containing "about 40% to about 90% by weight of vegetable oil." Further, unlike the foam produced by the subject invention that is stable for more than 5 hours, the foam produced in Roe et al. appears to be stable or significantly dissipates or breaks down in less than an hour (See Table I and II). In this way, the Applicants respectfully submit that the foams produced by the compositions disclosed in Roe et al. do not perform in the same manner as the foams produced by the compositions of the subject application. While Roe et al. may teach that alkyl sulfates function as foaming agents, they are unable to find any teaching or suggestion that such foaming agents would be effective for producing a **stable** foam comprising about 40% to about 90% by weight of a vegetable oil.

The Applicants respectfully submit that when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. The mere fact that a reference's generically disclosed composition might fortuitously have been created in accordance with the narrower limitations of the claim cannot constitute obviousness. The Examiner must show where the reference teaches explicitly, or inherently, the requisite limitation. The Applicants respectfully submit that the references do not suggest or teach a composition comprising "about 40% to about 90% vegetable oil."

Referring specifically to Claim 3.

The vegetable oil of the subject application comprises a "Crude" or a partially refined (degummed) vegetable oil. Crude vegetable oils, especially crude soya oils, contain tocopherol which is a natural antioxidant and functions as a preservative. This permits the foam producing composition of the present invention to be stored for use without or with the use of significantly less additional preservatives. Crude vegetable oils also contain soluble gums or vegetable oil soluble gums which improve the oil's stickability or adhesion characteristics thereby increasing the ability of the foam to cling to the plant's surface. The Applicants respectfully submit that there is nothing in the prior art references that the disclosed compositions comprise a crude or a partially refined (degummed) vegetable oil. Compositions comprising a large percentage of crude or non-refined vegetable oil have not been utilized because of the difficulties in formulating a stable pre-emulsion concentrate comprising a majority of crude or partially refined (degummed) vegetable oils; the difficulty of providing sufficient water dispersibility; and the tendency for vegetable oils to biodegrade (go rancid) during use.

As previously stated, Claim 3 that the vegetable oil of Claim 1 is "a crude vegetable oil." When evaluating a claim for determining obviousness, all limitations of the claim must be evaluated and the mere absence from the references of an explicit requirement of the claim cannot reasonably be construed as an affirmative statement. Claim 1, as amended, claims a composition comprising "about 40% to about 90% of vegetable oil" and Claim 3, dependent of Claim 1, claims a composition

comprising "a crude vegetable oil." The Applicants respectfully submit that they are unable to find any teaching or suggestion of such a composition in the cited references, and it is irrelevant in determining obviousness that all or all other aspects of the claims may have been known in the art.

Referring to independent Claim 25 and dependent Claim 27.

The Applicants respectfully submit that the composition for producing foam for use in protecting plants against frost or freezing temperatures as claimed in Claim 25 comprises a per-emulsion concentrate comprising a crude vegetable oil, an emulsifier, and a foaming agent. The Applicants restate the argument above with respect to crude vegetable oil.

Referring to Claim 27, the Applicants respectfully submit that they are unable to find any teaching in the cited references of the desirability of utilizing an emulsifier comprising "about 30% to about 50% by weight of C12 alcohol and about 50% to about 70% C14 alcohol and wherein said C12 alcohol and said C14 alcohol are ethoxylated with 3 moles of ethylene oxide." Accordingly, the Applicants respectfully submit that the cited references do not teach or disclose the composition of Claims 25 and 27.

In view of the foregoing, the Applicants respectfully submit that the rejection of Claims 1-3, 6, 8, 25, and 27 under 35 U.S.C. 103(a) as being unpatentable over Thiel et al and Roe et al. be withdrawn.

The rejection of Claims 1-3, and 8 under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. and Roe et al. Is respectfully traversed.

The Examiner takes the position that Inoue discloses a composition comprising vegetable oil, alkyl sulfate, ethylene oxide, and water. The reference, however, does not teach that the alkyl sulfate is a foaming agent. Roe teaches that alky sulfates function as foaming agents. Accordingly, one having ordinary skill in the art would have been motivated to use the instant composition as a foam since the prior art teaches that the combination of said ingredients create a foam. The Examiner further takes the position that while the cited references do not disclose that ethylene oxide is an

emulsifier, one of ordinary skill in the art would know that ethylene oxide can serve as an emulsifier.

The Applicants respectfully submit that Inoue discloses a composition containing bactericidal/disinfecting agents or antifungal/antiseptic agents. A cosmetic composition is shown formed from 10 to 70% by weight of oil or fat component selected from liquid paraffin and vegetable oil, 3 to 40% by weight of one or more organic surfactants, and 10 to 50% by weight of water (See Col. 5, lines 16 through 30). The Applicants are unable to find any teaching showing the desirability of a "foaming agent" or utilizing ethylene oxide as an emulsifier.

The Examiner takes the position that Roe teaches that alkyl sulfates may function as a foaming agent and that one skilled in the art would know that ethylene oxide can serve as an emulsifier. However, the Applicants are unable to find any teaching that would suggest the desirability of utilizing the alkyl sulfates in the cosmetic composition to produce foam or utilizing ethylene oxide as an emulsifier. The Applicants respectfully submit that ethylene oxide is not an emulsifier in and of itself. Ethylene oxide is a substance that evaporates quickly at ambient temperatures and pressures, and must be reacted with other substances to be used to produce an effective emulsifier. The Applicants submit that the particular substances to be reacted with the ethylene oxide to produce an effective emulsifier for a composition comprising "about 40% to about 90% of vegetable oil" is nowhere taught or suggest in the cited references.

Further, the cosmetic composition of Inoue is formed of "oil or fat component selected from liquid paraffin and vegetable oil." Accordingly, the Applicants respectfully submit that the references do not teach a composition comprising "about 40% to about 90% by weight of a vegetable oil" but a composition comprising an oil or fat component selected from a composition formed from a fat component selected from both liquid paraffin and vegetable oil. As previously stated, the mere fact that a reference's generically disclosed composition might fortuitously have been created in accordance with the narrower limitations of the claim cannot constitute anticipation. The Examiner must show where the reference teaches explicitly, or inherently, the requisite limitation. Further, a prior art reference must be enabling before it can be used as an anticipating reference. Such prior art

must be sufficiently definitive to put the public in possession of the invention. The Applicants respectfully submit that the composition disclosed in Inoue provides no guidance as to how to compose a composition for protecting plants from frost or freezing temperatures having the beneficial properties achieved by the subject invention. Indeed, Inoue does not teach or suggest a composition comprising "about 40% to about 90% by weight of vegetable oil."

In view of the foregoing, the Applicants respectfully submit that the rejection of Claims 1-3, and 8 under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. and Roe et al. be withdrawn.

The rejection of Claims 1-3 and 8 under 35 U.S.C. 103(a) as being unpatentable over Wdowik (U.S. Patent No. 5,756,081) is respectfully traversed.

The Examiner takes the position that Wdowik teaches a composition comprising coconut oil, surfactant, water, and a foaming agent. The reference does not state that coconut oil and surfactant are vegetable oil and emulsifier, respectively. However, one having ordinary skill in the art would know that coconut is a vegetable oil and a surfactant can serve as an emulsifier. Hence, the Examiner believes that Wdowik makes obvious the instant invention.

As previously stated, that in order to find anticipation, every element of the claimed invention must be literally present in a single prior art reference. Independent Claim 1, as amended, recites "a composition for producing a foam for use in protecting plants against frost or freezing temperatures comprising: about 40% to about 90% by weight of a vegetable oil...." While the cited reference states that shaving compositions may contain wetting agents or surfactants and foaming agents and may also include additives such as coconut fatty acids, coconut oil and other complex oils (Col. 1, lines 43 through 50), the Applicants are unable to find any teaching or suggestion of the desirability of forming a composition comprising about 40% to about 90% by weight of vegetable oil. Indeed, the composition disclosed in Wdowik is a shaving composition about .68% by weight of coconut fatty acid (See Example 1). As previously stated, while numerous compositions exist that produce or are capable of producing a foam, the Applicants are unable to find any teaching in the cited references

that would suggest that a foam comprising "about 40% to about 90% by weight of vegetable oil" would be stable for relatively long periods of time at or near freezing temperatures and would be effective for preventing injury to plants caused by frost or freezing temperatures.

IN CONCLUSION:

The U.S. Supreme Court in Graham v. Deere, 383 U.S. 1, 17 (1966) announced the current test for nonobviousness:

"Under Section 35 U.S.C. 103, the scope and content of the prior art to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined."

Thus, obviousness is a question of law in which the examiner must define the scope and content of the prior art and determine whether the subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the prior art. In an ex parte prosecution of a patent, the examiner has the initial burden of establishing a case of prima facie obviousness. Then, the examiner must consider the applicant's rebuttal and reevaluate all evidence which prompted the original rejection in the previous Office Action.

In the instant case, the prior art references have suggested the use of vegetable oil as an ingredient in a composition. However, it is well settled that prior art must sufficiently describe the claimed invention to have placed the public in possession of it. The Applicants are unable to find any teaching or suggestion in the cited references of the desirability of producing a foam comprising a large percentage (about 40% to about 90%) of vegetable oil, as claimed in Claim 1, as amended. Further, the Applicants are unable to find in the cited references any teaching or suggestion that the

vegetable oil is a crude vegetable oil as claimed in Claim 3. As stated previously stated, Crude vegetable oils, especially crude soya oils, contain tocopherol which is a natural antioxidant and functions as a preservative. This permits the foam producing composition to be stored for use without or with the use of significantly less additional preservatives. Crude vegetable oils also contain gums which improve the oil's stickability or adhesion characteristics thereby increasing the ability of the foam to cling to the plant's surface. Emulsions comprising a large percentage of crude or non-refined vegetable oil have not been utilized because of the difficulties in formulating a stable pre-emulsion concentrate comprising a majority of crude vegetable oils; the difficulty of providing sufficient water dispersibility; and the tendency for vegetable oils to biodegrade (go rancid) during use.

It is well known in patent law that while an invention which at first sight appears obvious, it might in fact involve an inventive step. Even if all of the elements of a claim are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the references to arrive at the claimed invention. It is insufficient that the prior art may have disclosed all or some of the components of the subject invention, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination claimed in the subject application. Further, for the teachings of a reference to be prior art under Section 103, there must be some basis for concluding that the reference would have been considered by one skilled in the particular art working on the pertinent problem to which the subject invention pertains. The Applicants have presented claims to a novel composition for protecting plants from injury caused by frost or freezing temperatures. In contrast, Thiel et al. discloses a shampoo-conditioning composition, Roe et al. discloses a composition for biological and dust control, and Inoue et al. discloses compositions containing beta substituted allyl alcohols, sulfuric acid esters thereof, phosphoric acid esters thereof, alkanoyl esters thereof and alkylene oxide ethers thereof. Accordingly, the Applicants respectfully submit that the cited references are not within the field of

the Applicants endeavors and are not reasonably pertinent to the particular problem with which they are involved. Further, the Applicants are unable to find any teaching, suggestion, or incentive that would motivate one skilled in the art to modify the compositions of the prior art references to form a composition comprising a pre-emulsion concentrate having about 40% to about 90% by weight of vegetable oil which is incorporated into water. Further, the Applicants are unable to find any suggestion or teaching in the cited references that a crude vegetable oil is or should be used in such a composition.

Thus, in view of the above discussion, the Applicants respectfully submit that the references do not reasonably disclose or teach the improvement in the art represented by the subject invention, and therefore, the invention is not obvious in view of these references.

In view of the foregoing amendments and remarks, it is respectfully submitted that all of the Claims now pending are allowable over the art of record. Reconsideration of all claims now in this application is respectfully requested.

Respectfully submitted,



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